

Work Order ID 142787***142787***

Page 1

Monday, March 21, 2016 10:04:16 AM

Item ID: D2581

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Mounting Bracket

Start Date: 3/29/2016 Start Qty: 48.00

48

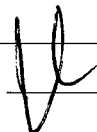
Cust Item ID:

Required Date: 4/1/2016 Req'd Qty: 48.00

48

Customer:

Reference:

Approvals: Process Plan:  Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start ***NR1***Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D2581	Rev A1								

105

0.00

105

Purchasing

Purchasing

Memo

ISSUE PO 31764
CUT PER DRWG D2581 REV.A1

0.00

48 MAR 21 2016DAS
13
9-89

115

Receive & Inspect for Damage & Mat'l Certs

0.00

115

Packaging

Packaging

Memo

0.00

48x SD/6-21-1

125

QC5- Inspect part completeness to step on W/O

0.00

125

QC

Quality Control

Memo

0.00

48DAS
38
9-89
APR 08 2016
P.T.O.

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval 		
Description Work Order Deviation				Disposition					
							Completed By		
							Lead hand / Supervisor Approval Verification		
							QC / QA Coordinator Approval		

Root Cause				FAULT CATEGORY			
Environment ☐	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐
Design ☐	☐	Operator	☐	Bending	☐	Set-up	☐
Doc/Data ☐	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐
Equip/Tooling ☐	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐
Handling/Pre ☐	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐
Material ☐	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐
Internal Transport ☐	☐	Poor Information	☐	Crushing	☐	Countersink	☐
Tribal Knowledge ☐	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐
LOA ☐	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐
Substation ☐	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐
Past Expiry Date ☐	☐	Manufacturing Process	☐	OTHER : _____			
Misidentified ☐	☐	Past Due	☐				

DQA: dat Date: 16.05.10



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed dat Date: 16/05/12

Work Order update only ☐

Work Order: <u>142787</u> Part No. <u>D2581</u> NCR No. <u>16-5694</u>		DISPOSITION Rework ☒ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Cross tube ☐ Water Jet ☐ Engineering ☐ Machining ☐ Small Fab ☐ Prod. Eng. Coord. ☐ Quality ☐ Thermoforming ☐ Finishing ☐ Rec/Store/Packaging ☐ Other ☐ Large Fab ☐ Composite ☐ Supplier ☒							
Date: <u>16-04-04</u>		Step #: <u>105</u>		QTY Effective :			MRB (QSI042) Approval DAS 9 9-89 <u>16-04-04</u> Completed By <u>dc</u> <u>16/04/12</u>				
Description Work Order Deviation Part was outsource to T.P.I. on P0317764. At inspection some holes where found under size. Ref. to NCR16-5694				Disposition .Re work (drill) holes to drawing. .fill out F.A.I. sheet				Lead hand / Supervisor Approval Verification DAS 38 9-89 APR 12 2016			
Root Cause Environment ☐ No Re-verification ☐ Design ☐ Operator ☐ Doc/Data ☐ Offset/Setup ☐ Equip/Tooling ☐ ☒ Supplier Handling/Pre ☐ Training ☐ Material ☐ Use for Testing ☐ Internal Transport ☐ Poor Information ☐ Tribal Knowledge ☐ Rushing ☐ LOA ☐ Product Improvement ☐ Substation ☐ Process Improvement ☐ Past Expiry Date ☐ Manufacturing Process ☐ Misidentified ☐ Past Due ☐				FAULT CATEGORY Pressure/Forced ☐ Temperature/Cure ☐ Power Loss/Surge ☐ Positioned Wrong ☐ Bending ☐ Set-up ☐ Folio/Program ☐ ☒ Outside Dimensions Centre Not Concentric ☐ BOM/Route ☐ Grain ☐ Over/Under tolerance Cracks ☐ Broken/Damage/Defect ☐ Weld ☐ Part Incorrect Crimp/Kink/Ripple/Wave ☐ Inspection Incomplete/Unqualified ☐ Wrong Stock Pulled Cuffs ☐ Contamination ☐ Out of Sequence Crushing ☐ Countersink ☐ Off-set Heat Treat ☐ Cut Too Short ☐ Mislabeled Wave/Twist in Tube ☐ Instructions Incomplete/Unclear ☐ Fit/Function Marks/Chatter ☐ Drill Holes ☐ Misaligned/off center OTHER :							

Work Order ID 142787***142787***

Page 2

Monday, March 21, 2016 10:04:16 AM

Item ID: D2581

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Mounting Bracket

Start Date: 3/29/2016 Start Qty: 48.00

48

Cust Item ID:

Required Date: 4/1/2016 Req'd Qty: 48.00

48

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	Form as per dwg NC BRAKE	0.00		DAS 30 9-89		48			APR 11 2016
130	Memo	0.02							
Brake NC									
Brake NC									
140	QC5- Inspect part completeness to step on W/O	0.00							DAS 38 9-89
140	Memo	0.02				48			APR 12 2016
QC									
Quality Control									
150	Identify as per dwg & Stock. Location: _____	0.00							
150	Memo	0.01				48			MW 1604-12
Packaging									
Packaging	*****STOCK IN BASKET CELL***** LOCATION WA004								

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval 	
Description Work Order Deviation				Disposition					
								Completed By 	
								Lead hand / Supervisor Approval Verification 	
								QC / QA Coordinator Approval 	

Root Cause				FAULT CATEGORY			
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐		
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐		
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐		
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐		
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐		
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐		
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐		
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐		
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐		
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐		
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____					
Misidentified ☐	Past Due ☐						

Work Order ID 142787

Monday, March 21, 2016 10:04:16 AM

142787

Page 3

Item ID: D2581

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Mounting Bracket

Start Date: 3/29/2016 Start Qty: 48.00

48

Cust Item ID:

Required Date: 4/1/2016 Req'd Qty: 48.00

48

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160	QC21- Final Inspection - Work Order Release	0.00							
160									
QC	Memo	0.08							
Quality Control									

MCJ APR 12 2016

MCJ APR 12 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation			Disposition		
			Completed By		
			Lead hand / Supervisor Approval Verification		
			QC / QA Coordinator Approval		
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : ☐					

Picklist Print

Monday, March 21, 2016 10:04:16 AM

Page 1

Work Order ID: 142787

142787

Parent Item: D2581

D2581

Parent Item Name: Mounting Bracket

Start Date: 3/29/2016

Required Date: 4/1/2016

Start Qty: 48.00

Required Qty: 48.00

Comments: IPP D01.07.17Added info to step 2SM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D2581P		Purchased	No				Each	0.0000		48			
D2581P									**				
Mounting Bracket													
M304S11GA		Purchased	No			100	sf	123.4750	0.0187	0.944842			
M304S11GA									**				
304/316 0.125 Sheet													

48 x 50/16 ea-01

DAS
13
9-89

APR 01 2016

Location

Loc Qty

Loc Code

MAT020

123.47498

M129545

26.57498

M129972

21.7

M134284

75.2

m134604

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Description Work Order Deviation		Disposition			

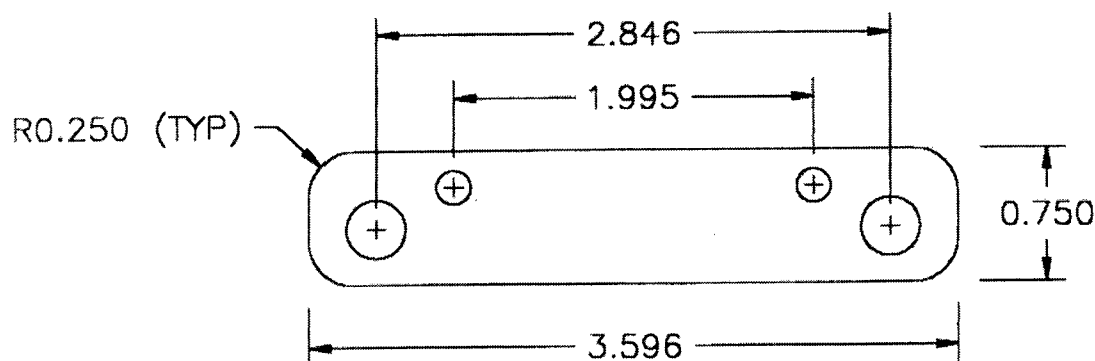
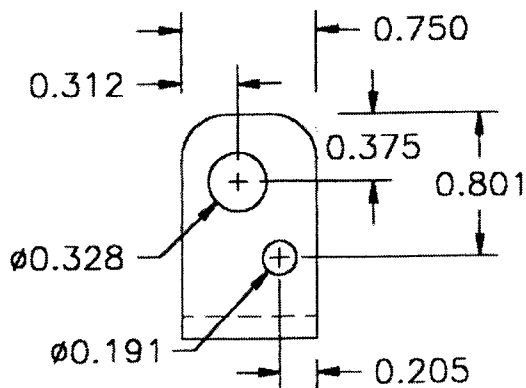
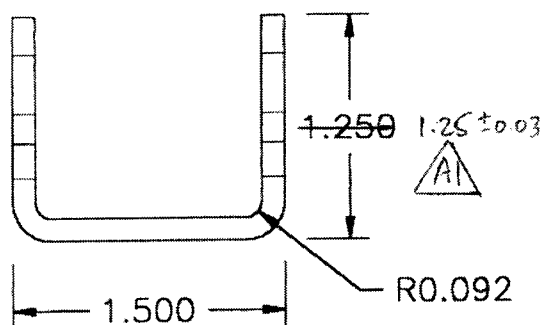
Root Cause		FAULT CATEGORY			
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____			
Misidentified ☐	Past Due ☐				

DART



DESIGN	DRAWN BY	DART AEROSPACE LTD VICTORIA INTERNATIONAL AIRPORT, CANADA	
MIKE M	MIKE M	DRAWING NO.	REV. A
CHECKED <i>Bu</i>	APPROVED <i>M. M.</i>	D2581	SHEET 1 OF 1
DATE	TITLE		SCALE
96.06.27	MOUNTING BRACKET		1:1
AI	CHANGE TOLERANCE ON 1.25 DIMENSION		

RELEASED
96/07/23 Bu



MATERIAL: 304/316 SS 0.125 THICK

STOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 142787MCS
16-03-14



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO31764**

Purchase Order Date 3/21/2016

PO Print Date 3/21/2016

Page Number 5 of 11

Order From :

VC-TP1001

TPI INDUSTRIES INC.
148 RUE GOODFELLOW
DELSON, QUEBEC J5B 1V4
CANADA

Ship To : DART AEROSPACE LTD
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name

Vendor Phone 450-633-0484

Ship To Contact

Ship To Phone

Ship Via: —

Ship Acct:

Buyer

Chantal Lavoie

Customer POID

Customer Tax # 10127-2607

Terms

Net 30

Currency

CAD

FOB

Destination-Collect

11	D4773-1P	Wearplate	4/6/2016 Yes 4/6/2016	4.00 Each	\$11.75	\$47.00
CUT AS PER DWG D4773 REV. C B143385 MATERIAL 304 SHEET 18 GA						
Line Total:						\$47.00
12	D5152-1P	Fwd Post Mount	4/6/2016 Yes 4/6/2016	28.00 Each	\$2.25	\$63.00
CUT AS PER DWG D5152 REV. B B142660 X 20 PCS B143386 X 8 PCS MATERIAL 304 SHEET 18 GA						
Line Total:						\$63.00
13	D2581P	Mounting Bracket	4/6/2016 Yes 4/6/2016	68.00 Each	\$5.35	\$363.80
CUT AS PER DWG D2581 REV. A B142787 X 48 PCS B141097 X 20 PCS MATERIAL 304 SHEET 11 GA						

Note:

3/21/2016

8816-04-01

T.P.I. INDUSTRIES INC.

148 GOODFELLOW
DELSON, QUÉBEC J5B 1V4
CANADA
Tel: (450) 633-0484
Fax: (450) 633-0879

Packing Slip

Packing Slip No.: 7436
Date: 2016-03-29
Page: 1

Sold to: Dart Aerospace Chantal Lavoie 1270 Aberdeen Hawkesbury, Ontario K6A 1K7 Canada	Ship to: Dart Aerospace Chantal Lavoie 1270 Aberdeen Hawkesbury, Ontario K6A 1K7 Canada
Order No.: 31764	Sold By: JONATHAN LESSARD
Shipped By:	Ship Date: 2016-03-30
Tracking No.:	

Item No	Unit	Description	Quantity
D2281 ✓		jack saddle ✓	80 ✓
D2585 ✓		latch clamp ✓	65 ✓
D3637-041 ✓		bracket assy ✓	12 ✓
D4060-1 ✓		ski clamp ✓	132 ✓
D4176-1 ✓		429 clamp ✓	8 ✓
d2232-3 ✓	Chaque	d2232-3 basket hinge ✓	15 ✓
d2581 ✓		mounting bracket ✓	48x 68 ✓
D3191-1 ✓		fitting ✓	10 ✓
D3405-041 ✓		ground handling lug ✓	32 ✓
D3405-043 ✓		ground handling lug ✓	6 ✓
d3561-1 ✓	Chaque	d3561-1 seal insert tool ✓	6 ✓
d3912-5 ✓	Chaque	d3912-5 eyebolt plate ✓	30 ✓
d4021-1 ✓	Chaque	d4021-1 handle plate ✓	14 ✓
d4148-1 ✓	Chaque	d4148-1 crosstube lug plate fwd ✓	44 ✓
d4149-1 ✓	Chaque	d4149-1 crosstube lug plate aft ✓	20 ✓
d4150-3 ✓	Chaque	d4150-3 arm plate ✓	8 ✓
d4151-1 ✓	Chaque	d4151-1 lower hardpoint plate ✓	40 ✓
d4151-3 ✓	Chaque	d4151-3 upper hardpoint plate ✓	42 ✓

Comment: Net / 30 from date of invoice 2% svc. chg. on invoices over 30 days

THYSSENKRUPP MATERIALS NA

DART AEROSPACE

STAINLESS STEEL SHEET 304L-2B DUAL GRADE
.1200 Nom X 48.0000" X 96.0000"
PART NO.

PO/Rel 31741

We certify that this is a true copy of the report
furnished by the producer of the metal, or data
resulting from tests made in approved labs.

Certificate of Mill Test Results

BL PEC-983229-002

21Mar16

Pg 1/1



METALLURGICAL TEST REPORT

North American Stainless Canada Inc.
740 Imperial Road North
Guelph, ON N1K1Z3
Canada

740 Imperial Road North

Certificate: 117938 1

Customer: 007206 001

Mail To:
THYSSENKRUPP MATERIALS
2821 LANGSTAFF ROAD
CONCORD, ON L4K5C6

Ship To:
THYSSENKRUPP MATERIALS
2821 LANGSTAFF ROAD
CONCORD, ON L4K5C6

Date: 11/26/2015 Page: 1

Steel: 304/304L

Finish: 2B

Corrosion: ASTM A262/14;180Bend-OK

Your Order: PEC271093

NAS Order: WN 0072789 07

PRODUCT DESCRIPTION:

STAINLESS STEEL COIL, C.R. ANNEALED & PICKLED. UNS 30400/30403
ASTM A240/15a,A480/14b,A666/15;ASME SA240/13,SA480/13,SA666/13
CHEM ONLY ON FOLLOWING ASTM: A276/13,A479/13a,A484/13a,A312/13
CHEM ONLY ON FOLLOWING ASME: SA312/13,SA479/13
AMS 5511H/5513J XMRK; MIL-5059D AMD3(X CRN MEAS); MIL-4043B
NACE MR0175/ISO 15156-3:2009 A, MR0103/07;Q98766D-A X MAG FERM
MIN. SOLUTION ANNEAL TEMP 1900F, WATER QUENCHED

REMARKS:

Mat'l is Free of Mercury Contamination. No weld repairs.
EN 10204:2004 3.1; RoHS 1 & 2 Compliant
Material is Free of Radioactive Contamination
Steel Making Process: EAF, AOD, & Cont. Casting
Product Mfg.by a Quality Mgt.Sys. in Conf. w/ISO 9001
*Melted & Manufactured in the USA; Mat'l is DFARS Compliant

Product Id	Coil #	Skid #	Thickness	Width	Weight	-----Length-----	Mark	Places	Commodity Code
02X2A3 DA	02X2A3 D		.1163	48.0000	4.970	SHEETS	096.00	32	

Lab Accreditation Bureau, ISO/IEC 17025, Certificate# L2323

CHEMICAL ANALYSIS CM(Country of Melt) ES(Spain) US(United States) ZA(South Africa) JP(Japan) Chemical Analysis per ASTM A751/08

HEAT	CM	C %	CR %	CU %	MN %	MO %	N %	NI %	P %	S %
X2A3	US	.0270	18.2380	.3950	1.7650	.3735	.0830	8.0045	.0340	.0010
SI %										
.2375										

MECHANICAL PROPERTIES

Product Id#	Coil #	1 d o i c r	UTS KSI	20C KSI	.2% VS KSI	20C ELONG %-2"	% Hard RB	Tail Hard
02X2A3 DA	02X2A3 D	F T	92.66	44.92	51.32	86.00	87.00	

NAS hereby certifies that the analysis on this certification is correct. Based upon the results and the accuracy of the test methods used, the material meets the specifications stated. These results relate only to the items listed and this report cannot be reproduced, except in its entirety, without the written approval of NAS.

Technical
Dept. Mgr.

ABHIJEET BHAVE

11/26/2015

THYSSENKRUPP MATERIALS NA

DART AEROSPACE

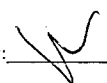
STAINLESS STEEL SHEET 304L-2B DUAL GRADE

.0750 Nom X 48.0000" X 120.0000"

PART NO.

PO/Rel 31741

We certify that this is a true copy of the report furnished by the producer of the metal, or data resulting from tests made in approved labs.

Signed by: 

Certificate of Mill Test Results

BL PEC-983229-001

21Mar16

Pg 1/1

ORIGINAL



YIEH UNITED STEEL CORPORATION

No.609,Xinglong St., Jiexing Vill., Gangshan Dist.,
Kaohsiung City 82057, Taiwan (R.O.C)

MILL CERTIFICATE

Customer : OLBERT METAL SALES LIMITED

Certificate : B15012A20

Date: JAN. 12. 2015

Customer : F00013

No.: F00013

Product : COLD ROLLED STAINLESS STEEL SHEET IN COIL
NO.2B FINISH

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Order No. : UB14D1303

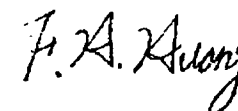
Specification/Steel Grade : DIN EN 10028-7 1.4301/1.4307_C
Surface Finish : No.2B

Product ID	Chemical Composition (%)													Tensile Test				Hardness Test		Bend Test
	C	Si	Mn	P	S	Ni	Cr	N	Mo	Cu				0.2% Y.S.	1% Y.S.	T.S.	EL(%)	HRB	HV	
Min.																				
Max.	0.030	1.00	2.00	0.045	0.015	8.00	17.50	0.100						230 MPa	250 MPa	540 700	45			
3CS35452A	0.014	0.36	1.10	0.035	0.008	8.13	18.04	0.039	0.21	0.44				304	345	627	54	83	164	
3CS35452B	0.014	0.36	1.10	0.035	0.008	8.13	18.04	0.039	0.21	0.44				304	345	627	54	83	164	

Product ID	Heat No.	Dimension	Qty	Weight	Remarks
3CS35452A	YU176298	1.00 mm * 1219 mm * Coil	C 1	10.163 KG	1 Test Method: 1.1 Heat Analysis: C.S.N by DIN EN ISO 9556:2002, EN 24935:1991, EN ISO 10720:2007, Others by CR10320:2004. 1.2 Tensile Test : EN 6892-1:2009. 2 MECHANICAL PROPERTIES REFER TO TENSILE TEST, HARDNESS TEST. 3 ALSO COMPLY TO EN10088-2, AISI 304/304L, ASTM A240/A480/A262E, ASME S240/S4480
3CS35452B	YU176298	1.90 mm * 1219 mm * Coil	C 1	10.083 KG	
				Subtotal 20.246 KG	

- We hereby certify that material described herein has been manufactured and tested with satisfactory results in accordance with the requirement of the above material specification.
- The material described above has been detected with free irradiation.
- YUSCO has established a QMS according to ISO 9001, which is certified by DNY CERT(reg.no:0058-2002-AQ-RGC-RYA)
- Inspection and gauge measurement: Satisfactory
- The report can only be reproduced in full.
- This certificate complies to 3.1/DIN EN 10204:2005.
- The tests including "Tensile Test", "Intergranular Attack" (I.A. TEST) have been accredited by A2LA(TESTING CERT #0958.02).

Manager of Quality Assurance Department



JA-A91